

REMARKS

35 USC §103

Claims 1-2, 4 and 8-9 are rejected under 35 USC 103(a) as being unpatentable over Andricacos et al. (US 6224690).

Claims 3 and 7 are rejected under 35 USC 103(a) as being patentable over Andricacos et al. (US 6224690) in view of Schrock (US 6221691).

The Applicant respectfully disagrees, especially in view of the amendments presented herein.

Claim 1 recites:

"A semiconductor package comprising a refined lead-free solder having an alpha flux of less than $0.0005 \text{ cts/cm}^2/\text{hr.}$ "

The current application points out on page 12 of the specification that the methodologies disclosed therein can be utilized for refining and purifying materials associated with lead-free solders. In addition, the current application states that it is frequently and incorrectly assumed that lead-free solders do not have alpha emitters or have low levels of alpha emitters. As a matter of fact, lead-free solders having low alpha flux is something that is both desirable and elusive in conventional applications.

The Examiner cites Andricacos as a reference that precludes patentability of the current claims, but the Applicant respectfully disagrees after a fair reading of the full reference and the context by which the reference to alpha particles is presented. Andricacos states in Column 3, lines 25-30 that:

"The elimination of lead from electronic solders is desirable because of the toxicity of lead. **The use of lead-free solders** also provides a means of limiting the soft errors in circuitry that are caused by alpha

particle emission from within the solder." (emphasis added)

There is absolutely nothing in Andricacos that states that these lead-free solders are refined and purified in order to remove alpha particle emission, in order to get the emission levels down to those claims. The current application points out that even lead-free solders emit alpha particles. Andricacos does not dispute this point, and also states that it is the removal of lead that leads to fewer soft errors caused by alpha particle emission. Therefore, Andricacos is merely stating that removal of the lead solves the problem. This contention supports the background of the present application.

The Schrock reference does not cure this deficiency, because Schrock does not disclose refining lead-free solders in order to remove alpha emitters.

The Applicant respectfully requests the Examiner to reconsider the citation of the Andricacos reference and respectfully requests that the Examiner allow claims 1-4 and 7-9 as allowable over the Schrock reference, alone or in combination.

Honeywell Docket No. H0004362.35587 US - 4018
Buchalter Docket No.: H9925-5005

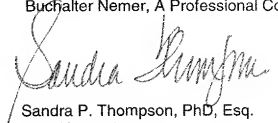
REQUEST FOR ALLOWANCE

Claims 1-4 and 7-9 are pending in this application, and the Applicant respectfully requests that the Examiner reconsider all of the claims in light of the arguments presented and allow all current and pending claims.

Respectfully submitted,
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